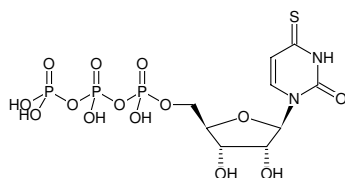


**4-Thio-UTP**

s4UTP, 4sUTP

4-Thio-uridine-5'-triphosphate, Sodium salt

Cat. No.	Amount
NU-1156S	10 µl (100 mM)
NU-1156L	5 x 10 µl (100 mM)



Structural formula of 4-Thio-UTP

For research use only!**Shipping:** shipped on gel packs**Storage Conditions:** store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible.

Shelf Life: 12 months after date of delivery**Molecular Formula:** C₉H₁₅N₂O₁₄P₃S (free acid)**Molecular Weight:** 500.20 g/mol (free acid)**Exact Mass:** 499.95 g/mol (free acid)**Purity:** ≥ 95 % (HPLC)**Form:** solution in water**Color:** colorless to slightly yellow**Concentration:** 100 mM - 110 mM**pH:** 7.5 ±0.5**Spectroscopic Properties:** λ_{max} 331 nm, ε 16.3 L mmol⁻¹ cm⁻¹ (Tris-HCl pH 7.5)**Applications:**Potent agonist for P2Y₂ and P2Y₄ receptors^[1,4]Labeling of transcriptional complex^[2]Influence on elongation and termination events and evoking transcriptional pause^[3]**Related Products:**

HighYield T7 RNA Synthesis Kit, #RNT-101

HighYield T7 RNA Crosslinking Kit (4-thio-UTP), #RNT-135

Selected References:

[1] Jacobson *et al.* (2006) Structure activity and molecular modeling analyses of ribose- and base-modified uridine 5'-triphosphate analogues at the human P2Y₂ and P2Y₄ receptors. *Biochemical Pharmacology* **71** (4):540.

[2] Khanna *et al.* (1991) Photoaffinity labelling of the pea chloroplast transcriptional complex by nascent RNA in vitro. *Nucleic Acids Res.* **19** (18):4849.

[3] Dissinger *et al.* (1990) Active site labeling of Escherichia coli transcription elongation complexes with 5-[(4-azidophenacyl)thio]uridine 5'-triphosphate. *J. Biol. Chem.* **265** (13):7662.

[4] Shaver *et al.* (1997) 4-substituted uridine 5'-triphosphates as agonists of the P2Y₂ purinergic receptor. *Nucleosides and Nucleotides* **16** (7):1099.

[5] Munchel *et al.* (2011) Dynamic profiling of mRNA turnover reveals gene-specific and system-wide regulation of mRNA decay. *Mol. Biol. Cell* **22** (15):2787.

[6] Zaher *et al.* (2006) A general RNA-capping ribozyme retains stereochemistry during cap exchange. *J. Am. Chem. Soc.* **128** (42):13894.

[7] Kwon *et al.* (2001) DNA sequencing and genotyping by transcriptional synthesis of chain-terminated RNA ladders and MALDI-TOF mass spectrometry. *Nucleic Acids Res.* **29** (3):e11.

[8] Testa *et al.* (1999) Thermodynamics of RNA-RNA Duplexes with 2- or 4-Thiouridines: Implications for Antisense Design and Targeting a Group I Intron. *Biochemistry* **38**:16655.

[9] Dontsova *et al.* (1994) Stem-loop IV of 5S rRNA lies close to the peptidyltransferase center. *Proc. Natl. Acad. Sci. USA* **91** (10):4125.

[10] Sheng *et al.* (1993) Active site labeling of HIV-1 reverse transcriptase. *Biochemistry* **32** (18):4938.

[11] Khanna *et al.* (1991) Photoaffinity labelling of the pea chloroplast transcriptional complex by nascent RNA in vitro. *Nucleic Acids Res.* **19** (18):4849.

[12] Tanner *et al.* (1988) Binding interactions between yeast tRNA ligase and a precursor transfer ribonucleic acid containing two photoreactive uridine analogues. *Biochemistry* **27** (24):8852.



4-Thio-UTP

s4UTP, 4sUTP

4-Thio-uridine-5'-triphosphate, Sodium salt

[13] Bartholomew *et al.* (1986) RNA contacts subunits Ilo and Iic in HeLa RNA polymerase II transcription complexes. *J. Biol. Chem.* **261** (30):14226.

[14] Eshaghpour *et al.* (1979) Specific chemical labeling of DNA fragments. *Nucleic Acids Res.* **7** (6):1485.